

ORIGINAL

The map shows the study area with the following features:

- Water Bodies:** Brandywine Creek, Christina River, and Mill Creek.
- Roads:** I-95, I-76, I-276, I-476, I-576, I-676, I-776, I-876, I-976, I-1076, I-1176, I-1276, I-1376, I-1476, I-1576, I-1676, I-1776, I-1876, I-1976, I-2076, I-2176, I-2276, I-2376, I-2476, I-2576, I-2676, I-2776, I-2876, I-2976, I-3076, I-3176, I-3276, I-3376, I-3476, I-3576, I-3676, I-3776, I-3876, I-3976, I-4076, I-4176, I-4276, I-4376, I-4476, I-4576, I-4676, I-4776, I-4876, I-4976, I-5076, I-5176, I-5276, I-5376, I-5476, I-5576, I-5676, I-5776, I-5876, I-5976, I-6076, I-6176, I-6276, I-6376, I-6476, I-6576, I-6676, I-6776, I-6876, I-6976, I-7076, I-7176, I-7276, I-7376, I-7476, I-7576, I-7676, I-7776, I-7876, I-7976, I-8076, I-8176, I-8276, I-8376, I-8476, I-8576, I-8676, I-8776, I-8876, I-8976, I-9076, I-9176, I-9276, I-9376, I-9476, I-9576, I-9676, I-9776, I-9876, I-9976, I-10076, I-10176, I-10276, I-10376, I-10476, I-10576, I-10676, I-10776, I-10876, I-10976, I-11076, I-11176, I-11276, I-11376, I-11476, I-11576, I-11676, I-11776, I-11876, I-11976, I-12076, I-12176, I-12276, I-12376, I-12476, I-12576, I-12676, I-12776, I-12876, I-12976, I-13076, I-13176, I-13276, I-13376, I-13476, I-13576, I-13676, I-13776, I-13876, I-13976, I-14076, I-14176, I-14276, I-14376, I-14476, I-14576, I-14676, I-14776, I-14876, I-14976, I-15076, I-15176, I-15276, I-15376, I-15476, I-15576, I-15676, I-15776, I-15876, I-15976, I-16076, I-16176, I-16276, I-16376, I-16476, I-16576, I-16676, I-16776, I-16876, I-16976, I-17076, I-17176, I-17276, I-17376, I-17476, I-17576, I-17676, I-17776, I-17876, I-17976, I-18076, I-18176, I-18276, I-18376, I-18476, I-18576, I-18676, I-18776, I-18876, I-18976, I-19076, I-19176, I-19276, I-19376, I-19476, I-19576, I-19676, I-19776, I-19876, I-19976, I-20076, I-20176, I-20276, I-20376, I-20476, I-20576, I-20676, I-20776, I-20876, I-20976, I-21076, I-21176, I-21276, I-21376, I-21476, I-21576, I-21676, I-21776, I-21876, I-21976, I-22076, I-22176, I-22276, I-22376, I-22476, I-22576, I-22676, I-22776, I-22876, I-22976, I-23076, I-23176, I-23276, I-23376, I-23476, I-23576, I-23676, I-23776, I-23876, I-23976, I-24076, I-24176, I-24276, I-24376, I-24476, I-24576, I-24676, I-24776, I-24876, I-24976, I-25076, I-25176, I-25276, I-25376, I-25476, I-25576, I-25676, I-25776, I-25876, I-25976, I-26076, I-26176, I-26276, I-26376, I-26476, I-26576, I-26676, I-26776, I-26876, I-26976, I-27076, I-27176, I-27276, I-27376, I-27476, I-27576, I-27676, I-27776, I-27876, I-27976, I-28076, I-28176, I-28276, I-28376, I-28476, I-28576, I-28676, I-28776, I-28876, I-28976, I-29076, I-29176, I-29276, I-29376, I-29476, I-29576, I-29676, I-29776, I-29876, I-29976, I-30076, I-30176, I-30276, I-30376, I-30476, I-30576, I-30676, I-30776, I-30876, I-30976, I-31076, I-31176, I-31276, I-31376, I-31476, I-31576, I-31676, I-31776, I-31876, I-31976, I-32076, I-32176, I-32276, I-32376, I-32476, I-32576, I-32676, I-32776, I-32876, I-32976, I-33076, I-33176, I-33276, I-33376, I-33476, I-33576, I-33676, I-33776, I-33876, I-33976, I-34076, I-34176, I-34276, I-34376, I-34476, I-34576, I-34676, I-34776, I-34876, I-34976, I-35076, I-35176, I-35276, I-35376, I-35476, I-35576, I-35676, I-35776, I-35876, I-35976, I-36076, I-36176, I-36276, I-36376, I-36476, I-36576, I-36676, I-36776, I-36876, I-36976, I-37076, I-37176, I-37276, I-37376, I-37476, I-37576, I-37676, I-37776, I-37876, I-37976, I-38076, I-38176, I-38276, I-38376, I-38476, I-38576, I-38676, I-38776, I-38876, I-38976, I-39076, I-39176, I-39276, I-39376, I-39476, I-39576, I-39676, I-39776, I-39876, I-39976, I-40076, I-40176, I-40276, I-40376, I-40476, I-40576, I-40676, I-40776, I-40876, I-40976, I-41076, I-41176, I-41276, I-41376, I-41476, I-41576, I-41676, I-41776, I-41876, I-41976, I-42076, I-42176, I-42276, I-42376, I-42476, I-42576, I-42676, I-42776, I-42876, I-42976, I-43076, I-43176, I-43276, I-43376, I-43476, I-43576, I-43676, I-43776, I-43876, I-43976, I-44076, I-44176, I-44276, I-44376, I-44476, I-44576, I-44676, I-44776, I-44876, I-44976, I-45076, I-45176, I-45276, I-45376, I-45476, I-45576, I-45676, I-45776, I-45876, I-45976, I-46076, I-46176, I-46276, I-46376, I-46476, I-46576, I-46676, I-46776, I-46876, I-46976, I-47076, I-47176, I-47276, I-47376, I-47476, I-47576, I-47676, I-47776, I-47876, I-47976, I-48076, I-48176, I-48276, I-48376, I-48476, I-48576, I-48676, I-48776, I-48876, I-48976, I-49076, I-49176, I-49276, I-49376, I-49476, I-49576, I-49676, I-49776, I-49876, I-49976, I-50076, I-50176, I-50276, I-50376, I-50476, I-50576, I-50676, I-50776, I-50876, I-50976, I-51076, I-51176, I-51276, I-51376, I-51476, I-51576, I-516

APPLICANT:

U.S. ENVIRONMENTAL PROTECTION AGENCY
1650 ARCH STREET
PHILADELPHIA, PA 19103-2029
CONTACT: MICHAEL TOWLE
ON-SCENE COORDINATOR

I, Michael J. EN-DC CERTIFY THAT ALL
(APPLICANT)

LAND CLEARING, CONSTRUCTION, AND
DEVELOPMENT SHALL BE DONE PURSUANT
TO THE APPROVED PLAN.

MAY 2000



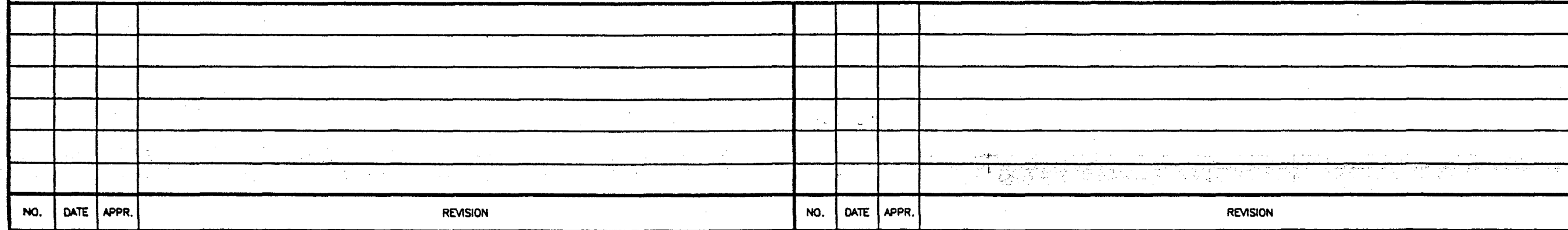
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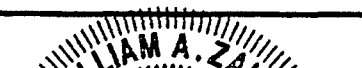

NOT SUBMITTED TO DNREC.
Revisions incomplete
at time of Weston's
end-of-contract.
This version to Tetra Tech
for further revision

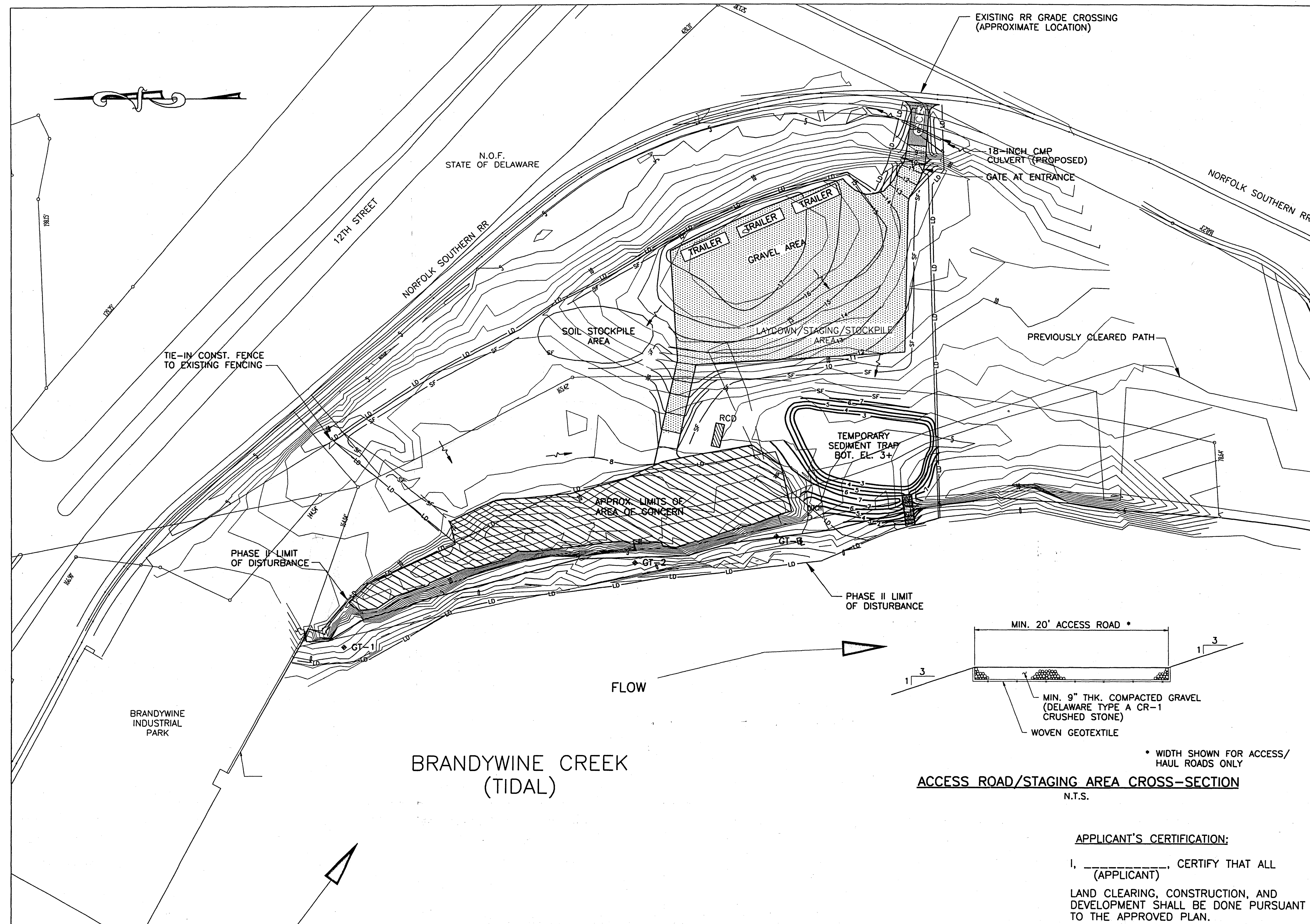
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SOIL SERIES LEGEND:

O_u OTHELLO-FALSINGTON-URBAN LAND COMPLEX
(NEW CASTLE, DE SOIL SURVEY)

U.S. ENVIRONMENTAL PROTECTION AGENCY		CHECKED	DATE	CLIENT APPROVALS	DATE		EXISTING SITE CONDITIONS				ORIGINAL													
12th STREET LANDFILL SITE		DES. ENG.																						
WILMINGTON	DELAWARE	PROJ. ENG.																						
		PROJ. MGR.																						
		APPROVED																						
WEST CHESTER	PENNSYLVANIA	APPROVED				<table><tr><td>DRAWN</td><td>JCT</td><td>DATE</td><td>5/11/00</td><td>DWG. NO.</td><td>2000</td><td>REV. NO.</td><td></td></tr><tr><td>SCALE</td><td>1"=50'-0"</td><td>W.O. NO.</td><td>20101.252.003</td><td>SHT</td><td>OF</td><td colspan="2"></td></tr></table>	DRAWN	JCT	DATE	5/11/00	DWG. NO.	2000	REV. NO.		SCALE	1"=50'-0"	W.O. NO.	20101.252.003	SHT	OF				
DRAWN	JCT	DATE	5/11/00	DWG. NO.	2000	REV. NO.																		
SCALE	1"=50'-0"	W.O. NO.	20101.252.003	SHT	OF																			

**CONSTRUCTION SEQUENCE-PHASE I**

1. INSTALL FENCE AND GATE AT LOCATIONS SHOWN.
2. INSTALL SILT FENCE AT LOCATIONS INDICATED.
3. CONSTRUCT SEDIMENT TRAP, COMPLETE WITH STONE OUTLET. FERTILIZE, LIME, AND SEED SEDIMENT TRAP EMBANKMENT AND FLOOR AREAS.
4. COMPLETE CLEARING AND GRUBBING OF SITE.
5. COMMENCE AND COMPLETE PREPARATORY GRADING AND CONSTRUCTION OF GRAVEL TRAILER/LAYDOWN/STAGING AREA AND HAUL ROADS.
6. FERTILIZE, LIME, AND SEED DISTURBED AREAS.
7. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND STONE ACCESS ROAD AT LOCATION SHOWN.

PHASE I LIMIT OF DISTURBANCE = 3.2 AC±

ESTIMATED BORROW MATERIAL-PHASE I

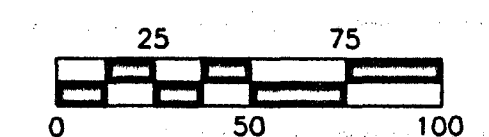
1350 CY COARSE AGGREGATE

LEGEND

- 10--- EXISTING CONTOUR
- 6--- PROPOSED CONTOUR
- SF--- SILT FENCE
- [Hatched Box] RCD ROCK CHECK DAM
- LD--- LIMIT OF DISTURBANCE (PHASE I)
- [Stabilized Box] STABILIZED CONSTRUCTION ENTRANCE
- [Gravel Box] GRAVEL ROAD/STAGING AREA
- CONSTRUCTION FENCE
- >--- SURFACE FLOW DIRECTIONAL ARROW
- ◆ GT-2 APPROXIMATE SOIL BORING LOCATION

APPLICANT'S CERTIFICATION:

I, _____, CERTIFY THAT ALL
(APPLICANT)
LAND CLEARING, CONSTRUCTION, AND
DEVELOPMENT SHALL BE DONE PURSUANT
TO THE APPROVED PLAN.



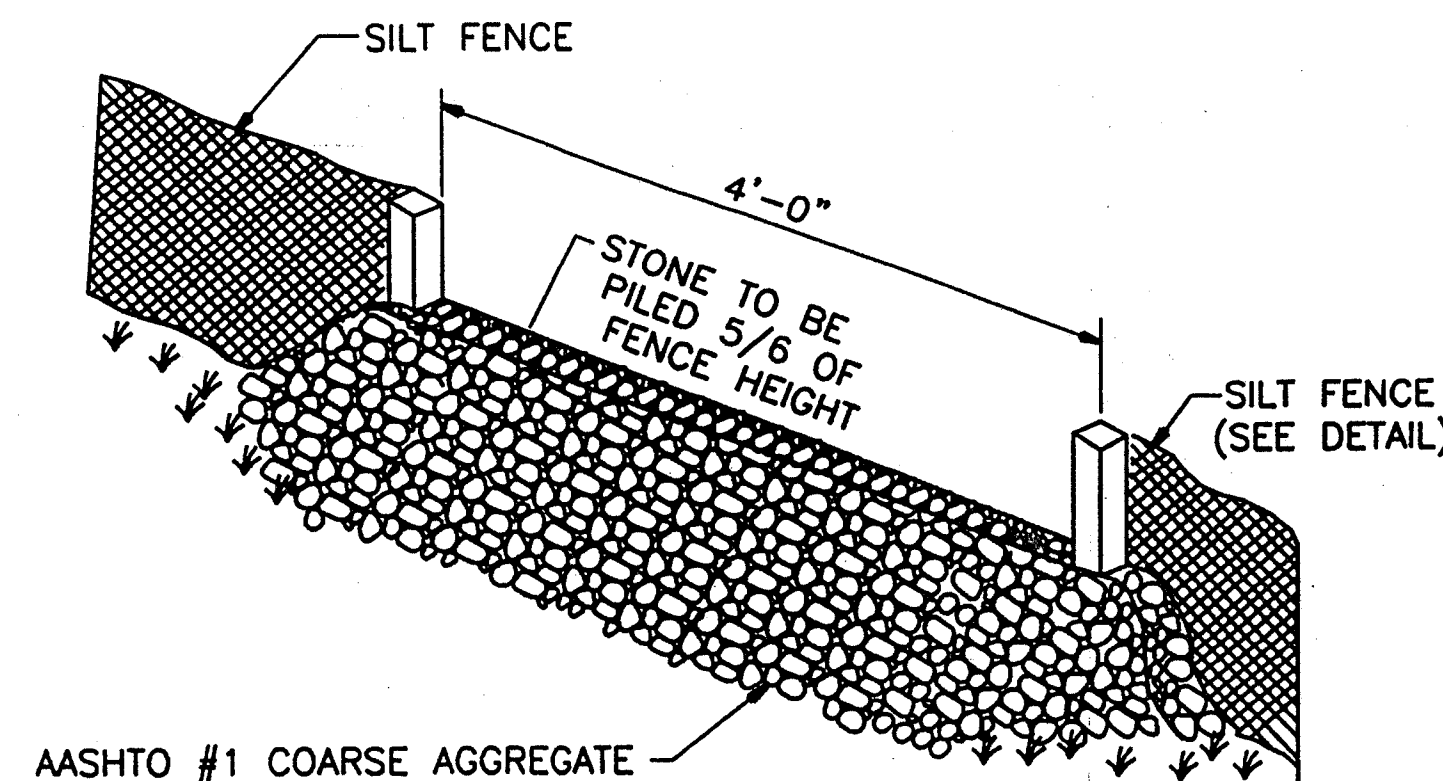
U.S. ENVIRONMENTAL PROTECTION AGENCY
WILMINGTON 12th STREET LANDFILL SITE DELAWARE

WESTON
MANAGERS DESIGNERS/CONSULTANTS

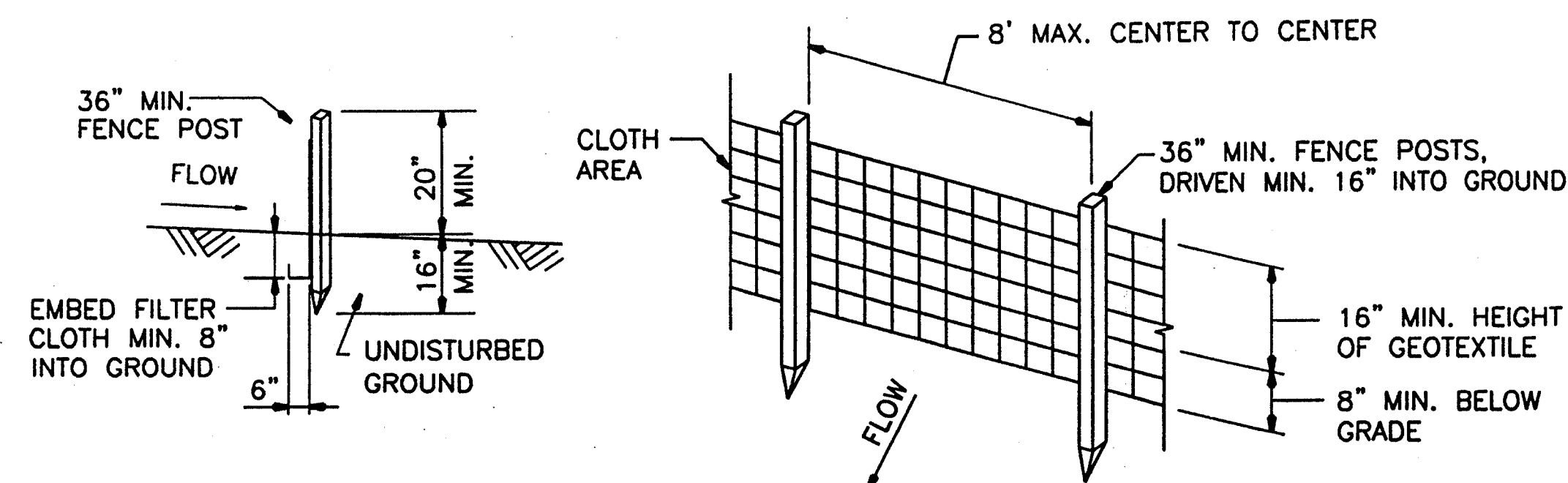
CHECKED	DATE	CLIENT APPROVALS	DATE
DES. ENG.			
PROJ. ENG.			
PROJ. MGR.			
APPROVED			
APPROVED			

**SITE GRADING, EROSION
AND SEDIMENTATION CONTROL PLAN
PHASE I**

DRAWN JCT	DATE 5/11/00	DWG. NO. 2001	REV. NO.
SCALE 1"=50'-0"	W.O. NO. 20101.252.003	SHT.	OF



GRAVEL OUTLET DETAIL
N.T.S.



SECTION

PERSPECTIVE VIEW

TYPICAL SILT FENCE
N.T.S.

POSTS: STEEL EITHER "T" OR "U" TYPE, OR 2" HARDWOOD
FILTER CLOTH: AMOCO 1380 SILT STOP OR APPROVED EQUAL

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

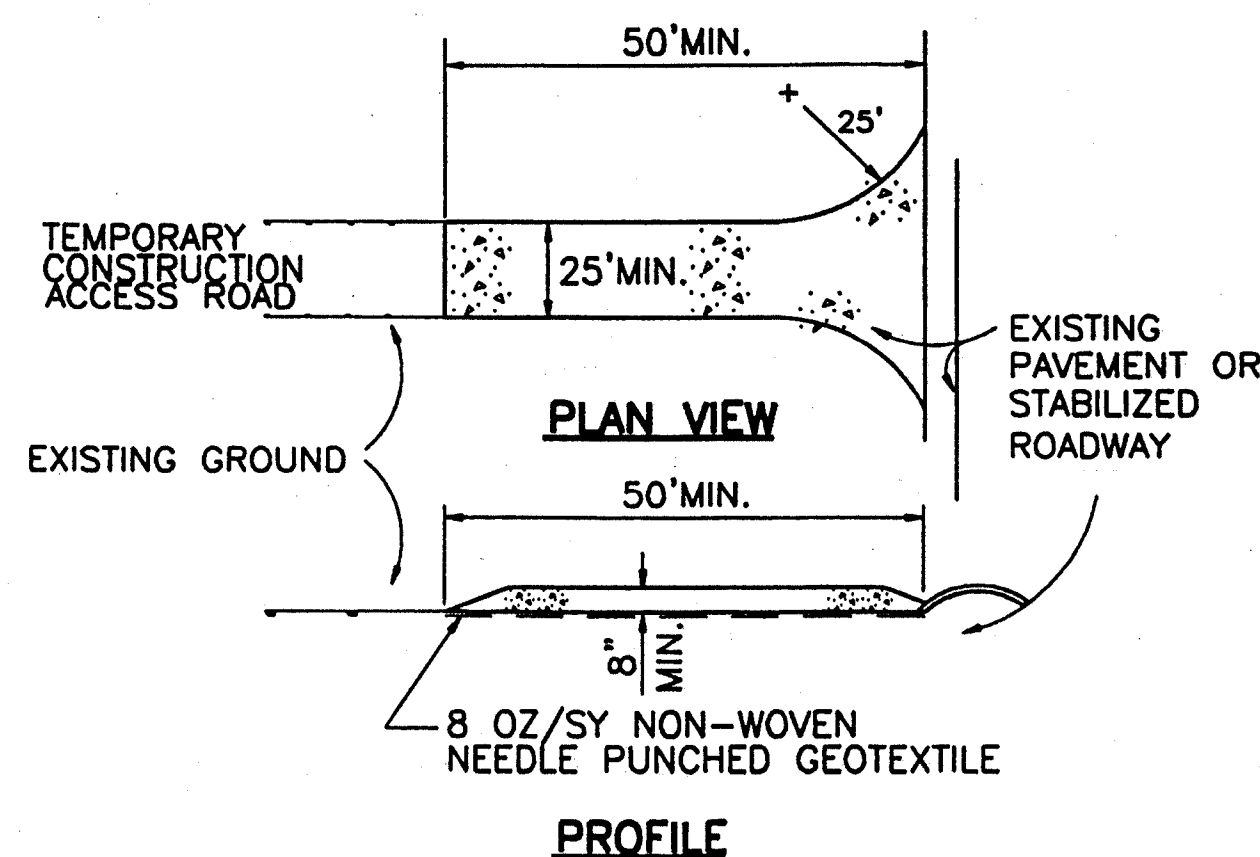
1. THE TOE ANCHOR WILL BE BACKFILLED AND COMPACTED TO A DENSITY EQUAL TO SURROUNDING SOILS.
2. FILTER CLOTH TO BE FASTENED SECURELY TO UPSLOPE SIDE OF FENCE POSTS.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6" AND STAPLED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

CONSTRUCTION SPECIFICATIONS-STABILIZED CONSTRUCTION ENTRANCE

1. STONE SIZE - DELDOT NO.2 COARSE AGGREGATE.
2. LENGTH - AS REQUIRED, BUT NOT LESS THAN 50 FT.
3. THICKNESS - NOT LESS THAN EIGHT (8) INCHES.
4. WIDTH - TWENTY-FIVE(25) FT. MIN., BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCE SHALL BE PIPED ACROSS THE ENTRANCE.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO EXISTING PAVEMENT AREAS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO EXISTING PAVEMENTS MUST BE REMOVED IMMEDIATELY.
8. WASHING - WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

STABILIZED CONSTRUCTION ENTRANCE

(REFER TO DWG. 2001 FOR LOCATION)

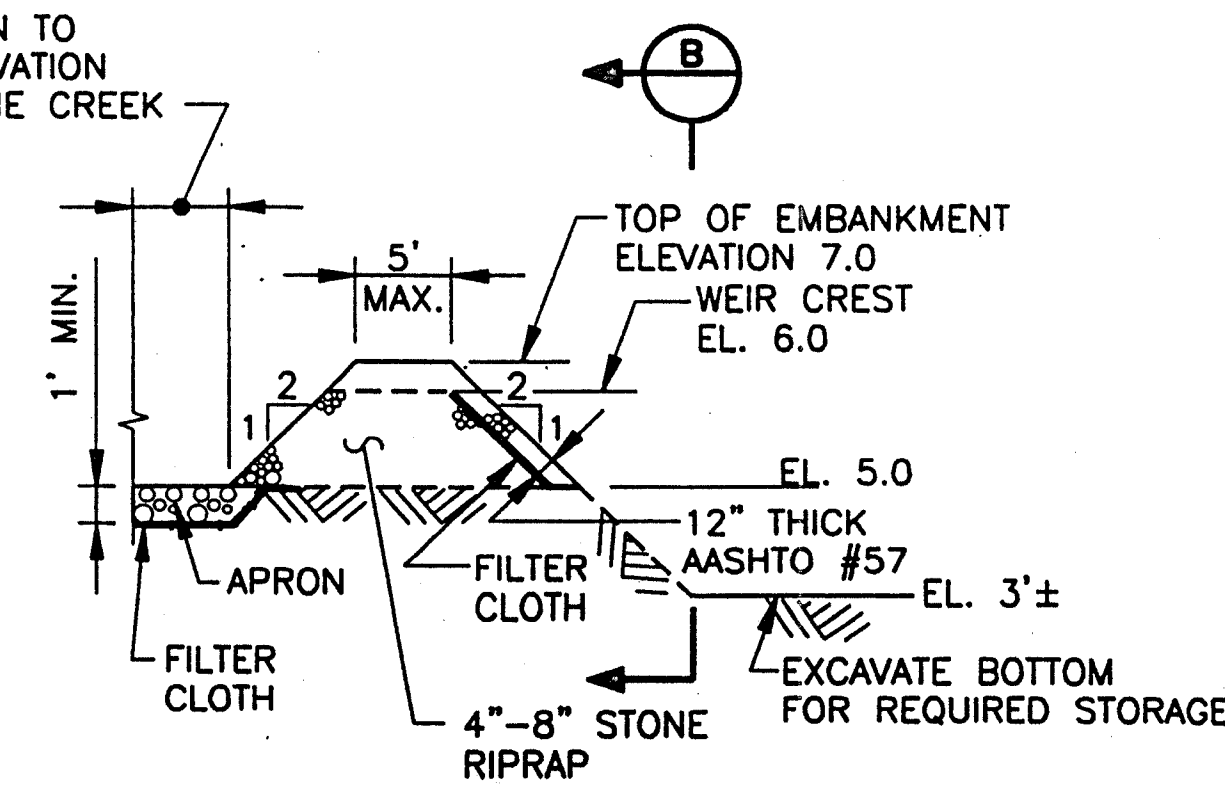


PROFILE

GENERAL EROSION AND SEDIMENTATION CONTROL NOTES

1. DNREC, SEDIMENT AND STORMWATER MANAGEMENT PROGRAM SECTION MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
2. REVIEW AND OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.
3. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE DNREC.
4. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER SEDIMENT CONTROLS, TOPSOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
5. CONTRACTOR IS RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL EROSION AND SEDIMENTATION CONTROL MEASURES DURING ALL PHASES OF CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR THE CONTROL OF DUST IN AND AROUND THE CONSTRUCTION AREA. DUST CONTROL MEASURES SHALL COMPLY WITH METHODS AS SPECIFIED IN DNREC'S DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.
7. PLACE EROSION CONTROL MEASURES PRIOR TO INITIATING EARTH DISTURBANCE ACTIVITIES.
8. FOR FOREIGN BORROW MATERIAL OBTAINED FROM OFFSITE SOURCES, BORROW AREAS SHALL HAVE PROPER EROSION AND SEDIMENT CONTROL MEASURES AND PERMITS IN PLACE, IF REQUIRED, PRIOR TO START OF EARTH DISTURBANCE IN THESE AREAS.
9. SOIL SHALL BE STOCKPILED IN AN AREA DESIGNATED BY THE EPA OR ENGINEER. STOCKPILES SHALL NOT EXCEED 20 FEET IN HEIGHT WITH 2H:1V MAXIMUM SIDESLOPES. STOCKPILE SHALL BE SURROUNDED BY SILT FENCE (DOWNGRADIENT SIDE).
10. CONTRACTOR SHALL DISTURB ONLY THOSE AREAS DESIGNATED ON THE DRAWINGS WITHIN THE LIMIT OF DISTURBANCE.
11. ALL NON-GRAVEL DISTURBED AREAS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADES.

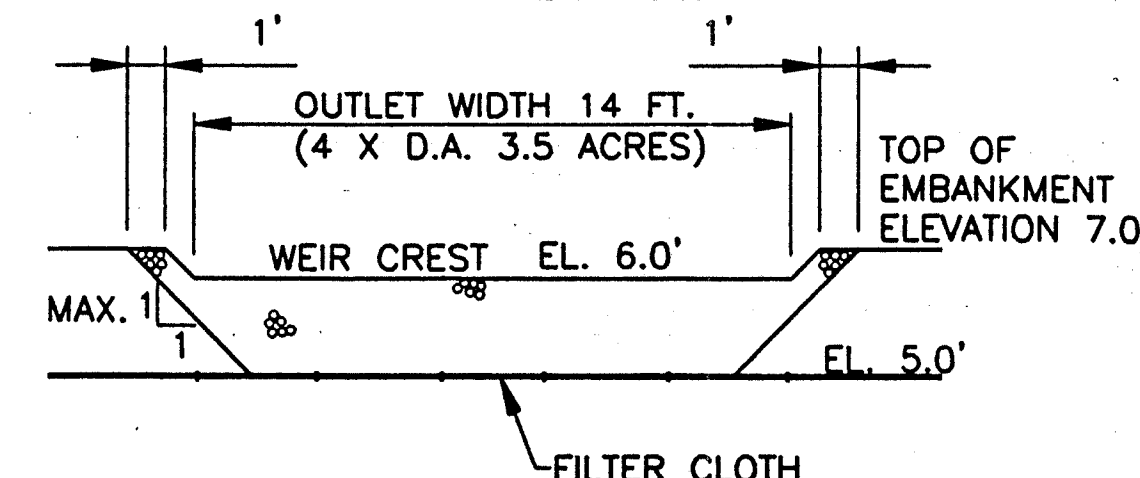
EXTEND APRON TO
LOW TIDE ELEVATION
OF BRANDYWINE CREEK



SECTION THROUGH SED. TRAP OUTLET

SECTION (A)
NO SCALE 2001/2002

- NOTE: 1. THE OUTLET EMBANKMENT IS TO BE COMPOSED ENTIRELY OF ROCK. THE MAIN BODY SHOULD BE LARGER STONE (4" TO 8" RIPRAP) WITH AN UPSTREAM LAYER OF SMALLER STONE (AASHTO #57).
2. APRON STONE SHALL BE MINIMUM D₅₀=6 INCHES, UNDERDRAIN BY FILTER CLOTH.



SECTION (B)
NO SCALE

STONE OUTLET SEDIMENT TRAP

N.T.S.

VEGETATIVE STABILIZATION SPECIFICATIONS:

I. SITE PREPARATION

PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AS TO THE SURFACE OF ALL SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, DIKES, GRASSED WATERWAYS, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) ON THE PROJECT SITE.

II. SEEDBED PREPARATION AND SEEDING APPLICATION

THE TOP LAYER OF SOIL SHALL BE LOOSENED, LIMED AND FERTILIZED BY RAKING, DISCING OR HARROWING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING. FLAT AREAS AND SLOPES UP TO 3 TO 1 GRADE (HORIZONTAL TO VERTICAL) SHALL BE LOOSE AND FRIABLE TO A DEPTH OF AT LEAST 4 INCHES. SLOPES STEEPER THAN 3 TO 1 SHALL HAVE THE TOP 1-3 INCHES OF SOIL LOOSE AND FRIABLE BEFORE SEEDING.

III. SOIL AMENDMENTS

LIME AND FERTILIZE ACCORDING TO SOIL TESTS. TEMPORARY SEEDING DOES NOT REQUIRE LIME. IN LIEU OF SOIL TESTS, APPLY THE FOLLOWING:

DOLOMITIC LIMESTONE: 2 TONS PER ACRE OR 92 LBS./1000 SQ. FT.

FERTILIZER: 10-10-10 OR EQUIVALENT AT 1000 LBS./ACRE (PERMANENT SEEDING)

IV. TEMPORARY SEEDING:

SEED: ITALIAN OR PERENNIAL RYE GRASS AT 80 LBS./ACRE OR 1 LB./1000 SQ. FT.

DATES: 2/1 TO 10/31.

PERMANENT SEEDING MIXTURE:

SEED: -'KENTUCKY 31' TALL FESCUE AT 40 lbs/ACRE AND INTERSTATE SERICEA LESPEDEZA AT 20 lbs/ACRE.

DATES: -PERMANENT 2/1 TO 4/30 AND 8/15 TO 10/31.

V. MULCHING

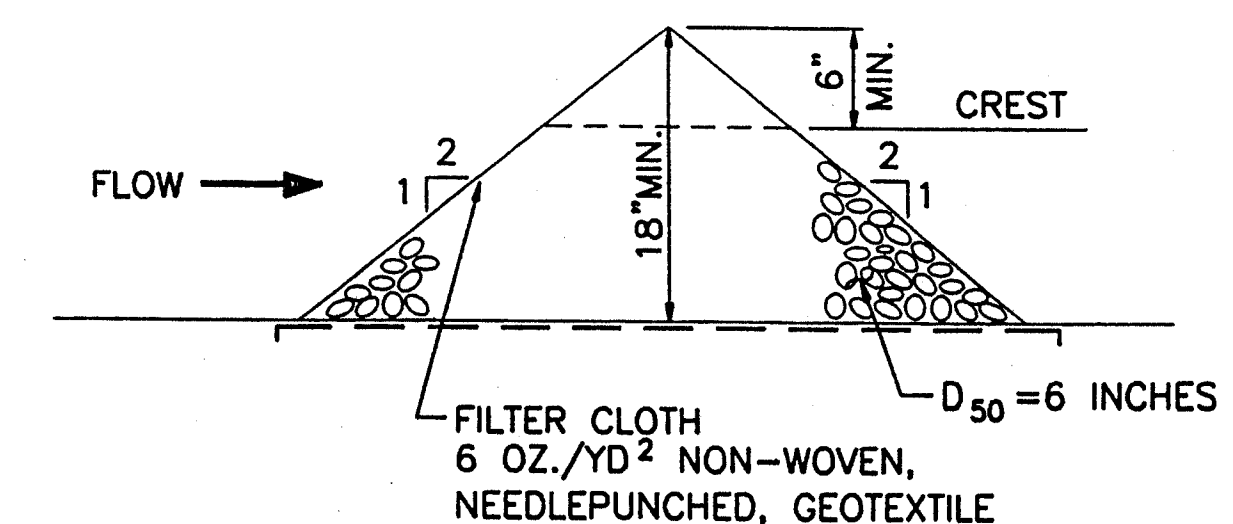
ALL SEEDINGS REQUIRE MULCHING. USE "MULCH ONLY" WHEN SEASON PROHIBITS SEEDING.

MULCH SHALL BE UNROTTED, UNCHOPPED SMALL GRAIN STRAW APPLIED AT A RATE OF 2.5 TO 3 TONS/ACRE OR 115-140 LBS./1000 SQ. FT. (2 BALES). MULCH MATERIALS SHALL BE RELATIVELY FREE OF ALL KINDS OF WEEDSEEDS AND SHALL BE FREE OF PROHIBITED NOXIOUS WEEDS. SPREAD MULCH UNIFORMLY MECHANICALLY OR BY HAND. MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER MULCH PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY MULCH NETTINGS, MULCH ANCHORING TOOL, PEG AND TWINE OR LIQUID MULCH BINDERS.

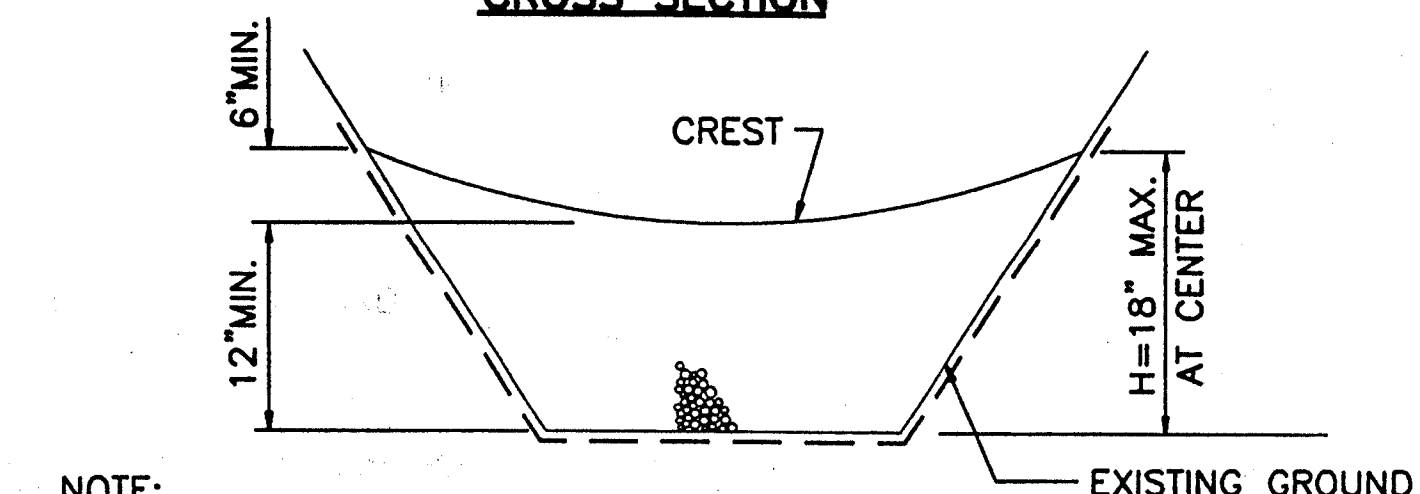
VI. MAINTENANCE

A. IRRIGATION - WHEN SOIL MOISTURE BECOMES DEFICIENT, IRRIGATE TO PREVENT LOSS OF STAND OF PROTECTIVE VEGETATION.

B. REPAIRS - IF STAND IS INADEQUATE FOR EROSION CONTROL, OVER SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY APPLIED. IF STAND IS OVER 30% DAMAGED, REESTABLISH FOLLOWING ORIGINAL RATES AND PROCEDURES.



CROSS SECTION



FRONT VIEW

ROCK
CHECK DAM DETAIL

NOTE:
EXTEND ROCK DAM
FOR FULL WIDTH OF
SWALE OR CHANNEL

U.S. ENVIRONMENTAL PROTECTION AGENCY

12th STREET LANDFILL SITE

WILMINGTON

DELAWARE

WESTON

WEST CHESTER

PENNSYLVANIA

CHECKED	DATE	CLIENT APPROVALS	DATE
DES. ENGR.			
PROJ. ENGR.			
PROJ. MGR.			
APPROVED			
APPROVED			

EROSION & SEDIMENTATION
CONTROL DETAILS AND NOTES

DRWN	D.E.C.	DATE	DWG. NO.	REV. NO.
SCALE	AS NOTED	5/11/00	2002	B
SCALE	AS NOTED	20101.252.003		